*By Lawrence Bridge and Bernard Beckler* ☆

# Capital Investment Programs and Sales Expectations in 1950

AMERICAN business, exclusive of agriculture, plans another year of large capital expansion, although the aggregate investment will be less than the high figures of the previous 2 years. Expenditures for the construction of new plant and the purchase of new equipment are scheduled at $16.1 billion during 1950. This is $2 billion, or 11 percent less than in 1949.

This downward adjustment in capital outlays is not due to any expectation of a change in the current favorable market for goods, but stems rather from the gradual catching up on the backlog demand for plant and equipment carried over from the war. Actually, businessmen responding to this survey anticipate that sales in the aggregate will be as high in 1950 as in the preceding year.

These results are based on reports submitted between mid-January and mid-March in the annual survey of plant and equipment expenditures and sales conducted jointly by the Office of Business Economics and the Securities and Exchange Commission. The data presented in this article are estimates for all nonagricultural business based on a sample composed of most corporations registered with the Securities and Exchange Commission and a large number of unregistered manufacturing companies, unincorporated as well as corporate, reporting to the Office of Business Economics.

## Investment Programs

In 1950 as a whole, anticipated business expenditures of $16.1 billion on new plant and equipment compare with $18.1 billion of capital outlays in 1949. Plant and equipment costs have risen slightly in the early months of 1950 and are currently about the average level prevailing in 1949. It would appear that the physical volume of outlays in 1950 based on current anticipations may be off about as much as the indicated dollar volume.

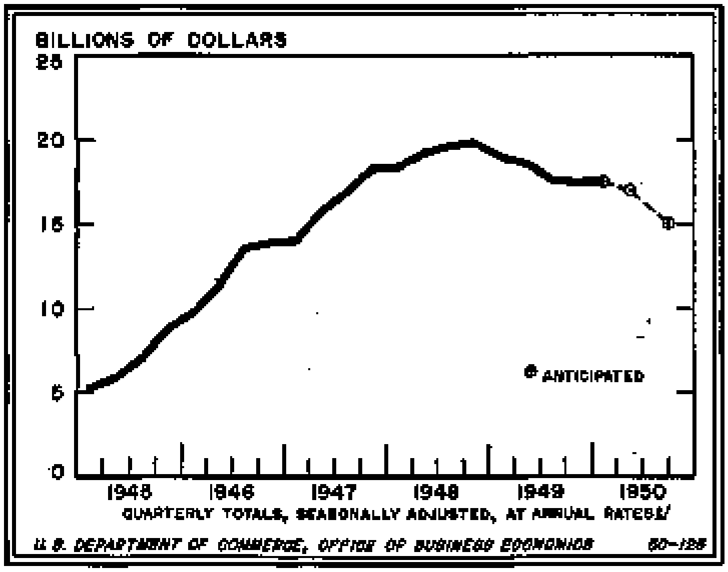
The $8.4 billion of expenditures planned by businessmen in the first half of 1950 is 8 percent below actual expenditures in the corresponding period of 1949. However, this volume of outlays, on a seasonally adjusted basis, represents maintenance of the rate of expenditures which prevailed during the second half of 1949 (see chart 1).

This evidence of continued strength in fixed investment in the current period is corroborated by the new and unfilled orders data in the early months of 1950. Orders received during January and February by manufacturers—including producers of machinery and equipment—generally showed substantial increases over the end of 1949, rising even more than sales.

### *First half steady—second half to decline*

Thus, the major impact of the reduction of capital outlays anticipated for 1950 will be felt in the second half of the year. A proper evaluation of the extent of this decline requires adjustment for seasonal influences and for factors peculiar to anticipatory data. Allowing for the normal seasonal influences found in actual expenditures, the implied decline from the first to the second half of the year is almost 13 percent. However, actual expenditures as reported in the fourth quarter, unlike anticipated outlays, are raised by the concentration of certain charges to capital accounts in the end of year statement. Making rough allowance for this factor, the decline would be closer to 10 percent.

**Chart 1.—Trend in Business Expenditures for New Plant and Equipment [1]**




[1] Data exclude expenditures of agricultural business and outlays charged to current account. Anticipated expenditures were reported by business between mid-January and mid-March of 1950.

[2] Latest plotting point is for the last half of 1950, seasonally adjusted, at annual rate.

Sources of data: U. S. Department of Commerce, Office of Business Economics, and Securities and Exchange Commission. Seasonal adjustment by Office of Business Economics.

In addition, past surveys have indicated that anticipated outlays in the latter part of the year are understated relative to the early part of the year due to the lesser completeness of future programs as compared to near-term budgets. Thus, in the second half of 1949, as well as in earlier years, actual expenditures were somewhat higher than those anticipated at the beginning of the year. Moreover, the returns from a special questionnaire designed to determine the reasons for differences between actual and planned expenditures for individual companies indicate that there is a systematic tendency in this direction.

It is, therefore, likely that the suggested downturn in the second half of 1950 is somewhat overstated—and may be closer in magnitude to the decline which took place from the

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first to the second half of 1949. This would also suggest that the anticipation for the year as a whole may err on the low side.

### *Each major group lower for the year*

For the year 1950, every major industry anticipates a lowered rate of plant and equipment investment. (See chart 2.) Railroads and other transportation show the largest cut-backs from 1949, amounting to 31 and 35 percent, respectively. Gas and electric utilities anticipates the smallest decline (6 percent), with manufacturing concerns a close second (7 percent). The mining and commercial and miscellaneous groups report declines varying little from the average for all industries.

Within manufacturing, both plant and equipment expenditures are expected to decline with the proportion of equipment to total outlays rising moderately. There was little difference by size of firm among manufactures in the relative changes in planned capital outlays.

## Postwar Trends in Capital Outlays

The capital programs of business for 1950 should be appraised against the background of the earlier postwar developments in outlays for plant construction and producers' durable equipment. These outlays reached an all-time high in late 1948, after an uninterrupted 3-year period of intensive expansion and modernization of industrial facilities. By and large, the expenditures during this period had eliminated a considerable portion of the backlog in business demand for capital goods which had accumulated during the war.

The leveling off in fixed capital outlays during the latter half of 1948 developed into a moderate decline in the subsequent year. A reduction was also noted in other areas of domestic investment during the first half of 1949, as inventories and residential construction—particularly the former—joined in the downward adjustment in general economic activity. During the second half of the year, business fixed capital investment continued to decline, although a rise in residential construction in the third and fourth quarters and a lower rate of inventory liquidation at the close of the year exerted a stabilizing force on aggregate private domestic investment.

### *Influence of price movements*

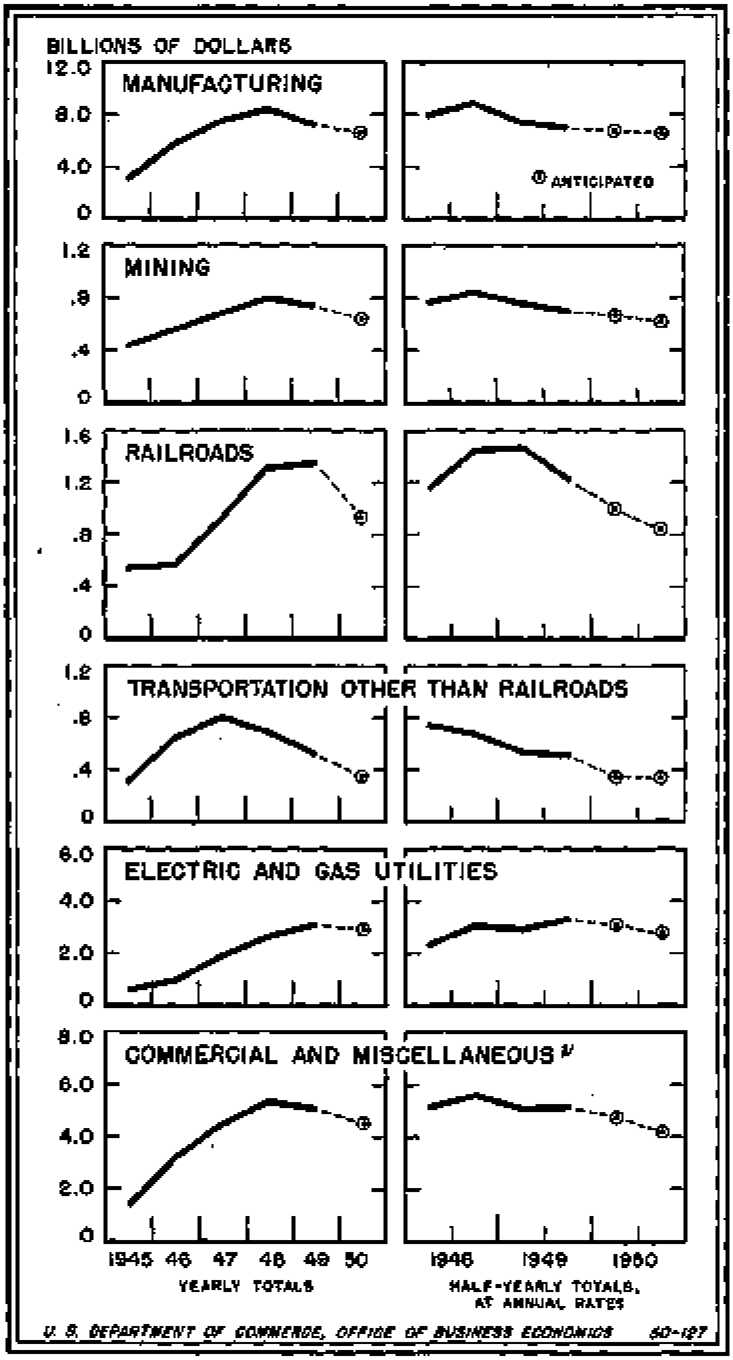
The rise and subsequent decline in the value of fixed capital outlays reflected in part the movements of prices. The postwar rise in plant and equipment prices continued until early 1949, although the wholesale price index for all commodities reached its peak the preceding summer. By the fourth quarter of 1949, the average of plant and equipment prices was about 5 percent lower than a year earlier. Dollar outlays had fallen 14 percent so that the reduction in the physical volume of investment approximated 10 percent. The present survey results indicate a leveling out in investment in the early months of 1950 and then a resumption of the decline in both dollar outlays and in physical volume which had started in early 1949.

While there are several factors resulting in these trends, including the movements of sales and profits, probably the principal influence has been the reduction in the backlog of demand for capital goods in 1949 and 1950. There are various independent indications of the importance of this factor in recent years.

### *Reasons for slackened pace of investment*

First, the preliminary findings of a survey, initiated by the Office of Business Economics to determine the factors influ-

**Chart 2.—Business Expenditures for New Plant and Equipment, by Industry Groups [1]**




[1] Data exclude outlays charged to current account. Anticipated expenditures were reported by business between mid-January and mid-March of 1950.
[2] Data include trade, service, communications, construction and finance.

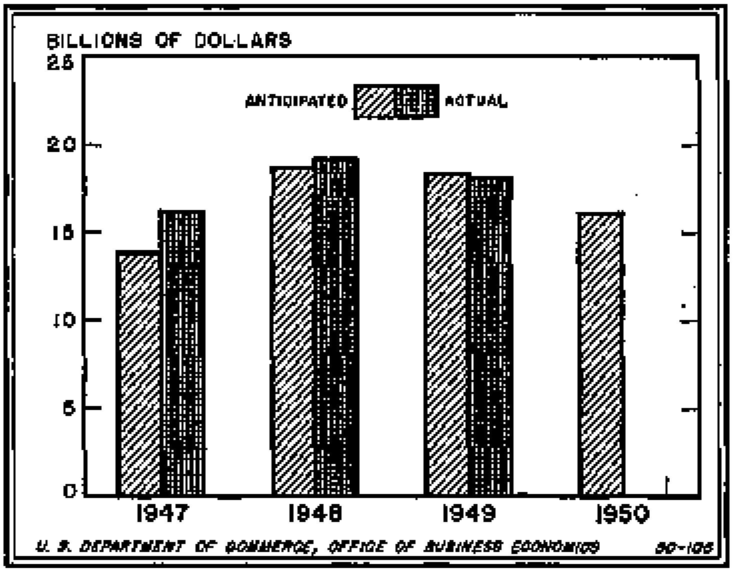
Source of data: U. S. Department of Commerce, Office of Business Economics, and Securities and Exchange Commission.

encing changes in the rate of fixed investment, are pertinent. On the basis of early returns, of those reporting companies anticipating a reduction of more than one-third from their 1949 capital outlays, approximately three-fifths indicate that "completion of current capital investment program" is the principal reason for this decline.

Second, an evaluation of postwar investment trends can be made in terms of the long-term trend in the demand for producers' durable goods. On this basis, the anticipated capital outlays in the second half of 1950 is quite close to the secular level which prior experience suggests is necessary to maintain facilities and provide for normal growth in productive capacity. A similar comparison for earlier years indicates that outlays in 1947 and 1948 were considerably, and in 1949 somewhat, above the secular trend.[1]

Thus, the influence of capital goods backlogs in the current demand situation is dwindling rapidly. The demand for capital goods is more closely in line with past relationships to the physical volume of over-all economic activity and to net income in 1950 than in any previous postwar period.

**Chart 3.—Business Expenditures for New Plant and Equipment: Actual and Anticipated [1]**




[1] Data exclude expenditures of agricultural business and outlays charged to current account. Anticipated expenditures were reported by business between mid-January and mid-March of the respective year.

Sources of data: U. S. Department of Commerce, Office of Business Economics, and Securities and Exchange Commission.

The substantial growth in the business population during the 1946–48 period and its subsequent stabilization also had a pronounced effect on the postwar trend in capital goods investment. On the basis of a study presented in another article in this issue, "Capital Requirements of New Manufacturing Firms," it is estimated that the direct contribution of newly formed firms accounted for 10 percent of the total investment in new plant and equipment during the 3 years 1946 through 1948.

The greatest impact on aggregate demand by new firms occurred in 1946—the highest year on record in the number of entrants into the business population. This factor declined in importance throughout 1947 and 1948 and has been fairly insignificant in 1949 and thus far in 1950.

## *Anticipated versus actual outlays*

In evaluating the 1950 investment intentions of business, attention should be drawn to the degree of accuracy with which businessmen have anticipated their actual outlays in the past. In 1949, aggregate expectations of business were almost fully realized as nonagricultural business firms spent $18.1 billion, within 1 percent of the amount that they had anticipated spending at the beginning of the year. In corresponding surveys covering 1947 and 1948 (see chart 3), planned outlays were 14 percent below those realized in the former year and 3 percent below those realized in the latter year.

The experience in these annual surveys augmented by the more numerous quarterly surveys suggests that the degree of accuracy in businessmen's projections of their dollar expenditures on plant and equipment is closely related to movements in capital goods costs. In 1947, when businessmen underestimated their outlays by 14 percent, the price rise for capital goods during that year was of the same order of magnitude. In 1948, with a smaller increase in capital goods' costs and a greater availability of supplies, businessmen were able to forecast their expenditures with a greater degree of reliability.

It is quite possible, therefore, that anticipated outlays are largely in terms of physical volume and prevailing prices and, hence, do not sufficiently take account of price factors. It should be pointed out, however, that the general easing of supplies and the elimination of restrictions on nonresidential construction during 1947 and 1948 may also have permitted larger increases in capital outlays than were considered feasible at the beginning of these periods.

As pointed out above, anticipated outlays for new plant and equipment in 1949 were about 1 percent below actual expenditures while costs fell somewhat more between the end of 1948 and the end of 1949. The coincidence between planned and realized expenditures is especially noteworthy since this period was a turning point in postwar business investment.

Though movements in prices are not likely to affect perceptibly the investment plans of business this year, there are two factors which may cause actual expenditures to diverge from expectations. First, changes in economic conditions do have some effect on investment plans. Thus, actual expenditures in the first half of 1949 were lower than those anticipated as a result of a temporary deterioration in the economic picture, while estimated expenditures in the first quarter of 1950 are higher than those initially planned because of an improvement in business conditions. Second, as pointed out earlier, there is probably some understatement in anticipated fixed capital outlays for any period well in the future, since businessmen generally tend to be conservative in their budgets or stated plans and are less likely to report their more tentative plans over the longer term.

## *Quarterly trends*

The trend of capital-goods investment during the first three quarters of 1949, after allowance for seasonal influences, was one of steady decline—falling approximately 12 percent from the peak annual rate of $20 billion of outlays in the fourth quarter of 1948. During the last quarter of 1949 and the first quarter of 1950, expenditures remained at the third-quarter rate of $17.5 billion.

Both the fourth quarter of last year and the first quarter of 1950 were revised upward about 8 percent from their initial anticipations. To a large extent the upward revision in the earlier quarter was attributable to accounting adjustments. The revision in the first quarter of this year, however, was largely due to the improvement in the business situation at the close of 1949 and during the early months of 1950. These upward revisions occurred in all major industrial groups.

Anticipated outlays in the second quarter are about $500 million (at seasonally adjusted annual rates) below the first quarter. The bulk of this decline was expected in manufacturing—although the data for the second half of 1950 indicate that capital-goods outlays in this industry will decline less from the first half than in any other major group.

## *Manufacturing investment down moderately*

Capital outlays of manufacturers are expected to total $6.7 billion during 1950, compared with $7.2 billion in 1949, and $8.3 billion in 1948. The anticipated decline in expenditures in 1950 is more moderate, both in absolute and rela-

[1] See "The Demand for Producers' Durable Equipment," SURVEY OF CURRENT BUSINESS, June 1949.

tive terms, than that which occurred from 1948 to 1949. This is especially noteworthy since it was in this area that the weakening of private domestic investment in 1949 was most evident.

Anticipated expenditures during the first half of 1950, after adjustment for seasonal influences, are somewhat higher than the level which prevailed during the latter half of 1949. During the second half of 1950, seasonally adjusted capital expenditures by manufacturers are expected to fall somewhat less than 10 percent—but, for reasons discussed above, the decline may not be that large.

There are substantial differences in the 1950 investment programs among the component groups in this industry. For example, the automobile group anticipates a sizable increase; the steel and food groups, little change; chemicals, a moderate decrease; petroleum, a somewhat larger decline; and the textiles, leather, and apparel group, a very large decrease.

The expected increase in capital outlays by the automobile industry in 1950 will involve considerably larger expenditures for both plant and equipment. In large part, this is due to new facilities designed to improve the effectiveness of production, and to large outlays resulting from the growing importance of automatic transmissions.

In the petroleum industry, expenditures for new capital goods this year are expected to be below the high 1949 total. There is a general trend toward heavier expenditures for exploration, production, and pipe-line construction, but it is anticipated that reductions in outlays for refining and marketing facilities will be more than offsetting.

When the 1950 plans of manufacturing companies are examined in terms of firm size, it is found that there is little difference between the smaller and larger firms in the relative changes from last year's capital outlays.

## *Manufacturing construction and equipment expenditures*

In 1950, as in 1949, manufacturing expenditures on equipment are expected to increase relative to expenditures on plant—although in absolute terms anticipated expenditures for equipment in 1950 are somewhat less than in 1949.

In the early postwar period, with aggregate demand for industrial products considerably above supply, the efforts of producers were directed toward a rapid increase in capacity and output, though limited by restrictions on construction and shortages of materials. As can be seen in the following tabulation for manufacturing and mining firms, equipment outlays in the 1946–48 period slowly declined relative to plant expenditures, but remained above the immediate prewar average.[4]

| | 1939–40 average | 1946 | 1947 | 1948 | 1949 | 1950 |
|---|---|---|---|---|---|---|
| Percent of equipment expenditures to total new plant and equipment outlays [4] | 64 | 72 | 71 | 69 | 73 | 76 |

During 1949 and 1950 the completion of a high proportion of the immediate postwar capital expansion programs and developments toward keener competitive conditions have reversed the downtrend in the equipment proportion of total outlays which had characterized the immediate postwar years. A higher proportion of equipment outlays, as well as of total capital expenditures, has been taking the form of replacement and modernization expenditures rather than additions to capacity. In the near future, cost reducing machinery will probably become an increasingly significant part of plant and equipment expenditures though capital investment for new products may also rise in importance.

## *Railroad outlays down*

The reduction in expenditures for new plant and equipment anticipated for 1950 by the railroads exceeds that of all other major industries with the exception of the other transportation group. Railroad outlays are expected to decline 31 percent from 1949, reflecting the effects of reduced traffic and earnings during 1949 and also the completion of a considerable portion of their postwar expansion in road construction and equipment installation.

The downward trend in capital outlays has been especially noticeable in deliveries of freight cars, one of the major components of railway purchases. Shipments during the early months of 1950 were approximately one-fourth as large as those in the corresponding period of 1949. This is reflected in the railroads' anticipation that total equipment outlays in the first half of this year will be 35 percent below the same period last year—as compared to a 15 percent decline in construction expenditures.

Capital outlays in the first and second halves of this year are each expected to be about 31 percent below the corresponding periods of last year. The extent of the downturn in the second half of 1950, however, may be overstated. The roads' prospects for earnings and traffic in 1950 appear more favorable each month. Despite the work stoppage in

[4] Mining is included in these figures since manufacturing and mining were not segregated in the prewar estimates. The 1939–40 estimates are not completely comparable to those in the postwar period.

**Table 1.—Business Expenditures on New Plant and Equipment, 1945–50 [1]**

[Millions of dollars]

| Industry | 1945 | 1946 | 1947 | 1948 | 1949 | 1950 [2] | 1949 January–March | 1949 April–June | 1949 July–September | 1949 October–December | 1950 [2] January–March | 1950 [2] April–June | 1950 [2] July–December |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| All industries | 8,690 | 12,040 | 16,180 | 19,230 | 18,120 | 16,090 | 4,460 | 4,680 | 4,370 | 4,610 | 4,110 | 4,260 | 7,720 |
| Manufacturing | 3,210 | 6,010 | 7,400 | 8,340 | 7,290 | 6,740 | 1,850 | 1,880 | 1,690 | 1,830 | 1,690 | 1,740 | 3,310 |
| Mining | 440 | 560 | 690 | 890 | 740 | 650 | 190 | 190 | 180 | 180 | 170 | 170 | 310 |
| Railroads | 550 | 570 | 910 | 1,320 | 1,350 | 930 | 360 | 380 | 310 | 300 | 230 | 300 | 420 |
| Other transportation | 230 | 600 | 800 | 750 | 520 | 350 | 130 | 140 | 140 | 120 | 80 | 90 | 170 |
| Electric and gas utilities | 630 | 1,040 | 1,900 | 2,680 | 3,140 | 2,940 | 660 | 790 | 790 | 890 | 740 | 810 | 1,390 |
| Commercial and miscellaneous [3] | 1,480 | 3,300 | 4,430 | 5,390 | 5,120 | 4,480 | 1,260 | 1,290 | 1,290 | 1,320 | 1,170 | 1,180 | 2,120 |

[1] Data exclude expenditures of agricultural business and outlays charged to current account.
[2] Anticipated expenditures for 1950 were reported by business between mid-January and mid-March.
[3] Data include trade, service, communications, construction and finance.

Source: U. S. Department of Commerce, Office of Business Economics, and Securities and Exchange Commission.

coal in the first quarter, estimated carloadings in the first 2 quarters of this year are above the corresponding periods of 1949. Although unfilled orders for freight cars are considerably below a year ago, they have doubled since December. These orders indicate that a higher rate of deliveries may occur in future months. In addition, the backlog in orders for passenger cars and locomotives continues high.

The replacement of coal-burning steam locomotives by Diesel-electric engines has been proceeding at a record rate. As a result of this program 35 percent of the 1949 freight traffic of class 1 roads was hauled by Diesel-electric locomotives as compared with 10 percent in 1946 and less than one percent in 1941. Installations of Diesel locomotives in the first 2 months of 1950 exceeded the previous year's rate by 10 percent.

### *Utilities investment remains high*

Capital expenditures by electric and gas utilities in 1950 are programmed at $2,940 million, 6 percent below the previous year but approximately 10 percent above 1948. Seasonally adjusted data indicate that little decline from the fourth quarter is expected in the first half of 1950, so that the indicated annual decline will be concentrated in the second half of this year.

Expenditures by both the electric and gas utilities are expected to decline this year. In the electric-utility industry, increased outlays in transmission lines and general plant construction are expected to be more than offset by lower investment in generation and distribution facilities. A major element of strength in the gas-pipe-utility field is line construction. During 1949, long-distance lines brought increasing quantities of natural gas from the Texas, Louisiana, Oklahoma, and Kansas fields into the heavily populated northeast area. Much larger quantities are expected to reach this area during 1950 with completion of such projects as the 1,850-mile pipe line from the lower Rio Grande Valley to the New York metropolitan area.

## Sales Anticipations

Sales anticipations for the entire year 1950 were reported in this survey along with annual plans for capital outlays. According to the replies of this representative cross section of American industry, business firms in aggregate expect to maintain in 1950 approximately the same level of sales as in 1949.

Within industry groups, modest advances in sales volume are anticipated by electric and gas utilities and manufacturing—industries, which, as noted above, expect the smallest cut-backs in capital outlays compared with 1949—while slight reductions are expected by trade and transportation concerns other than railroads. The following table shows the anticipated changes in sales in 1950 and actual and anticipated changes in the 1947–49 period for selected industries. The data indicate that sales expectations in 1948 and 1949 were realized within a reasonable margin of error.

**Percentage change in sales [1]**

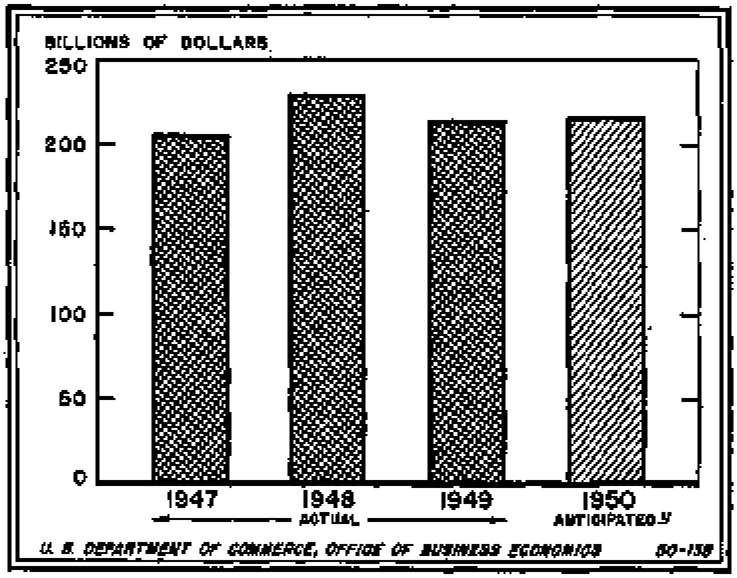
| | 1947 to 1948 | | 1948 to 1949 | | 1950 |
|---|---|---|---|---|---|
| | Actual | Anticipated | Actual | Anticipated | Anticipated |
| Manufacturing | +11 | +5 | −6 | −1 | +2 |
| Electric and gas utilities | +12 | +12 | +7 | +4 | +6 |
| Trade | +8 | +2 | −5 | 0 | −2 |
| Other transportation | +10 | +19 | +8 | −1 | −5 |

[1] The percentage changes in actual sales are based upon total sales for manufacturing and trade, and revenues by utilities and overall transport agencies. Data on revenue anticipations were not collected for railroads.

The postwar trend in manufacturing sales is shown in chart 4. Within manufacturing, 1950 sales in most major industries were expected to be little changed from their 1949 levels.

However, the producers' goods industries, unlike other manufacturers, anticipated a slight decline in their sales this year, reflecting the moderately lower capital outlays programmed by business as a whole.

**Chart 4.—Manufacturers' Sales**




[1] Anticipated sales were reported by business between mid-January and mid-March of 1950.
Source of data: U. S. Department of Commerce, Office of Business Economics.

In correspondence with the findings noted above concerning investment programs by size of firm, sales anticipations show little evidence of significant differences between large and small manufacturers. This is in rather sharp contrast to the size comparison in the previous survey conducted early in 1949. In that survey large manufacturers anticipated an increase in sales volume for 1949 over 1948 of approximately 5 percent as compared with an expected decline of 4 percent for medium-size firms and 8 percent for the smallest size group.

It may be noted that sales programs of business are not so firm as investment plans. Sales for a particular firm are subject to forces of demand largely outside the control of the individual business concern. Investment decisions, on the other hand, although influenced by the current demand for the firm's sales product, are determined by other independent considerations and in addition involve commitments some time in advance.

While manufacturing and trade anticipated that the end of the upward movement in sales in the early postwar period would occur in 1949, they did not envisage the extent of the decline that was actually experienced. In the previous year, manufacturing and trade firms anticipated only part of the increase which occurred in sales. These differences, for reasons indicated in the discussion of investment programs, can be explained largely in terms of movements in prices subsequent to the time the anticipations were reported. However, sales expectations—to a much greater extent than investment plans—are probably also considerably influenced by the rate of operations at the beginning of the period. The greater accuracy of anticipated sales by electric and gas utilities reflects the relative stability in their prices as well as the close relationship between capacity and consumption over the postwar period.